Emoji through the Lens of Perceived Gender

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Abstract

Past social media advertising campaigns highlight that when emojis "fit" the products, emojis can help create buzz through social media marketing. Many studies suggest that products possess gender traits that impact consumer behavior. However, no study demonstrates if emojis possess such gender traits and whether emojis' gender traits affect consumer behavior in the same way as perceived product gender. These gaps form the basis for the three studies in this research. In study 1, participants (N = 172, Female = 98, Male = 74) provided open-ended word descriptions of emojis as well as the rating of an emojis' gender traits. Overall, participants think emojis have masculine or feminine traits. Specifically, heart-related emojis, smiling face emojis, and sad emojis were generally considered more feminine, while emojis of body parts were generally rated as more masculine. Besides, feminine emojis were generally associated with stronger and more positive sentiment and masculine emojis were associated with weaker and less positive sentiment. In study 2, participants (N = 219, Female = 100, Male = 119) were shown different versions of product promotion tweets, with or without emojis. They were asked to answer questions on current feelings, perceptions of the gender of the tweet sender and the target audience, attitude toward the product, and purchase intention. The results

demonstrate that emoji gender to product gender congruence or incongruence was not a deciding factor of consumers' attitudes toward the product and purchase intentions. In some cases, however, emoji gender to product gender congruence or incongruence would affect purchase intention and alter participants' perceptions of the tweet sender and the target audience's gender. Such influence was very situational. experience. In study 3, participants (N = 209, Female = 105, Male = 102, Prefer not to answer = 2) were shown various versions of promotional email subject, with or without emojis. They were asked to indicate the actions they would take after seeing the email, emotions conveyed in the email, perceptions of the gender of the tweet sender and the target audience, as well as thoughts on brand familiarity, brand favorability, product quality and product value. The results show that emoji gender to product gender congruence or incongruence was not a deciding factor on the action consumers would take after seeing the email or the perceived emotions of emails. In certain cases, however, emoji gender to product gender congruence or incongruence would influence the perceived emotions of emails. Participants' gender is not a significant factor in any of the results. Results of study 2 and study 3 have both shown some situational findings. In this regard, being mindful of emojis' gender traits can still assist the business in creating a smooth customer experience.

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1. Introduction

Emojis have been widely and successfully implemented in social media marketing for many companies. Tweets that include both a brand name and an emoji have increased 49% since 2015 (McCarthy, 2018). For example, IHOP used numerous pancake emojis in one of their twitter advertising posts. This tweet saw thousands of likes. Monterey Bay Aquarium told an entire story with emojis on World Emoji Day, which receives hundreds of likes and retweets. How IHOP and Monterey Bay Aquarium used emojis in relation to their products truly made them stand out amongst their competition and helped them communicate promotions, deals, and product launches with their customers more effectively (Alton, 2018). It is evident that when used appropriately, emojis can benefit a company's social media marketing, especially when the emoji "fits" the product. Certain factors can make some emojis more "successful" than the others. One of the factors could be gender.

Studies have suggested that many products, like people, have perceived gender. They possess traits of masculinity or femininity, and these gender traits can affect consumers (van Tilburg et al., 2015). The question is "Are emojis are ascribed gender qualities?" There is no known research on this issue. In previous studies, self-reported gender,

biological sex, and emotional gender role have been used to analyze emoji usage differences (Chen et al., 2018; Jaeger, Vidal, Kam, & Ares, 2017; Lu et al., 2016). If emojis have perceived gender quality, does this gender aspect affect brands' social media marketing or email marketing, specifically with product promotion? How will the fit between product gender and emoji gender affect the effectiveness of the marketing messages? Answers to these questions provide not only a new gender perspective of emojis, but also implications for companies on how to communicate with consumers more effectively and to create a better customer experience.

2. Literature Review

2.1. Emojis

Emojis, or emoticons, are ways to convey an emotional expression in text-based communication with a small picture. The first reported emoji usage was in a discussion forum in the 1980s, where standard punctuation symbols were used to create a smiley face :-) and a frown face :-(which were used to indicate the joking nature of the message (Dresner & Herring, 2010). In the late 1990s, a Japanese company created the colorful image version of these emoticons for mobile phone users and named these images as "emojis" (Kaye, Malone, & Wall, 2017). With the technological advancement in digital platforms and smartphones, emojis are now frequently used by up to 92% of the online population to express emotion in communication (Kaye et al., 2017). Also, many new emojis continue to be created.

In addition to conveying emotion, emojis can "aid personal expression" by "establishing emotional tone" and "lighting the mood" which are often absent without face-to-face communication (Kaye et al., 2016). "Reducing ambiguity" is another major benefit of using emojis by adding nonverbal information in textual communication (Kaye et al.,

2016). Overall, it is indicative that how emojis aid textual communication is closely related to the function of emotional expression.

2.2. Emoji Gender

Many studies of emojis with respect to gender have viewed gender as an explanatory variable for emojis usage. Respondent's biological sex (Ares et al., 2017), self-reported gender identity (Chen et al., 2018), or emotional gender role (Lu et al., 2016) have been analyzed to understand emoji usage in different contexts. One study aims to see how the perceived gender of the texter varies when different emojis are used in the text message (Hernandez et al., n.d.). A search, however, found no previous studies that have focused on examining the possible gender qualities of emojis.

People have a tendency to give human-like characteristics to nonhuman agents, including animals, natural forces, religious deities, and mechanical or electronic devices; this tendency is known as anthropomorphism (Epley et al., 2007). In addition, one of the first features that people will notice and process when meeting someone for the first time is gender (Dion, Berscheid, & Walster, 1972). Thus, it is likely that people imbue some emojis with humanlike characteristics and even view them as having a gender.

Most understanding of how humans attribute masculinity and femininity stems from the field of evolutionary psychology (EP), which incorporates ideas from evolutionary biology and modern psychology (Buss, 1994). Physical characteristics indicate

masculinity or femininity which in turn affects attractiveness. This entire process has been guiding mate selection since the beginning of human evolution (Buss, 1994). There are certain cues of the opposite sex that serve as the criteria for attractiveness in mate selection and these cues vary between different genders (Buss, 1994). These cues are embedded in certain physical characteristics that humans use to infer masculinity/femininity (van Tilburg et al., 2015). Since emojis have physical features, it is possible that people will perceive a gender in emojis, and the process of gender attribution may vary.

Emojis can be divided into two main categories: emojis that resemble facial expression and those that do not intend to resemble faces (Riordan, 2017). While one can easily tell the traditional gender of some emojis, such as *woman* (👩) and *man* (👨), there are other emojis that do not seem to have obvious gender cues. For example, some face emojis like face blowing a *kiss* (😘) and a nonface emoji like *red heart* (❤️). Therefore, this research will test a variety of popular emojis to see which emojis people perceive entail gender traits.

2.3. Product Gender

Much marketing research finds products have attributed personality and gender traits (van Tilburg et al., 2015). Studies have shown that there are a few different factors that determine how consumers attribute gender to a product. The first being the perception of

the product's consumer groups, where studies suggest that consumers appear to perceive the product gender containing more of their own biological sex (Allison et al., 1980). Another factor would be the product promoter's gender (Debevec & Iyer, 1986). In particular, this study shows that the product spokesperson's gender can change the gender of the product that was originally perceived as either masculine or feminine, but not a gender-neutral product (Debevec & Iyer, 1986). In addition, one study suggests that product aesthetics, such as form, color, and material, can define product gender (van Tilburg et al., 2015).

This aspect of the product gender is closely related to the study of consumer behavior. Research indicates that both men and women feel psychologically uncomfortable to some degree when using products and services that do not seem like being intended for them (Milner & Fodness, 1996). This phenomenon is explained by the Self-Congruency Theory which states that individuals tend to choose products or services that reflect their own image or identity (Grubb & Grathwohl, 1967). In that sense, since gender is a crucial part of one's identity, consumers look for reflections of their own gender identity when making a purchasing decision.

With the rise of social media, more and more companies engage in social media marketing. One aspect of that is promoting products on different platforms, such as Twitter, Instagram, Facebook, etc.. When communicating with consumers online, brands that wish to create a young, relatable, and warm brand image tend to use more textual

paralanguage (TPL), which are written expressions of nonverbal communication elements, such as emojis (Luangrath, Peck, & Barger, 2017). One reason behind this strategic communication approach is that younger people use emojis more often than older people (Ares et al., 2017). Since emojis represent the image/tone of the product promoter as well as the perception of the target consumer groups in this online communication, it follows that the emoji used, and particularly the gender of the emoji, could influence how people perceive the gender of a product. Thus, this research aims to better understand the influence of emoji gender on product gender as well as how different relationships between emoji gender and product gender affect consumer behavior.

2.4. Emoji Gender – Product Gender Congruence

As discussed above, emojis used in a company's social media posts can reflect the image/tone of the product promoter, which is related to product gender. In a physical store scenario, the product promoter could be the salesperson or the staff in the store. According to one research that studies the offline customer-salesperson encounter of the cosmetic retailers, customers approach staff who look like themselves in terms of age, gender, and in some cases, ethnicity and race (Foster & Resnick, 2013). More importantly, customers also use age and gender as cues to infer if the staff can offer reliable advice on products with gender cues (Foster & Resnick, 2013). For instance, customers would consider female staff to be more knowledgeable when it comes to

cosmetic products (Foster & Resnick, 2013). In these situations when customers have a positive perception of the salesperson and the overall service experience, they tend to have a higher purchase intention.

Another study looks into the online customer-salesperson encounter where the salesperson is replaced by virtual sales assistants (VSA) and the relationship between VSA gender and product gender (Beldad, Hegner, & Hoppen, 2016). VSA could be either an animated picture or a real-person photograph that can provide customer product-related information. When there is a high VSA gender – product gender congruence, customers reported higher trust in the VSA and the brand, as well as higher purchase intention (Beldad et al., 2016).

Since the age characteristic is absent in most emojis except for only a few human face emojis, such as *old woman* (👵) or *baby* (👶), the gender of emojis becomes crucial. Furthermore, in the online shopping experience that lacks the customer-salesperson interaction such as in VSA, emoji gender could play an important role in highlighting the product promoter gender which, in turn, relates to product gender. As no previous research has studied emoji gender to product gender congruence with respect to consumer behavior, this research aims to gain more insights into the effect of emoji gender-product congruence in consumers' attitudes toward the product and purchase intentions.

3. Hypotheses

This research seeks to answer three main hypotheses:

(1) To assess the extent to which emojis possess masculine or feminine traits.

H_{1a}: Emojis have masculine or feminine traits.

H_{1b}: Emojis do not have masculine or feminine traits.

(2) To understand how does the use of emoji in social media marketing influence consumer behavior and to what extent this effect can be explained by emojis' gender traits:

H_{2a}: Consumers' emotions and attitudes toward the product are positive when emoji gender to product gender is congruent.

H_{2b}: Consumers' emotions and attitudes toward the product are negative when emoji gender to product gender is incongruent.

H_{3a}: Consumers' purchase intentions are high when emoji gender to product gender is congruent.

H_{3b}: Consumers' purchase intentions are low when emoji gender to product gender is incongruent.

(3) To understand how does the use of emoji in email marketing influence consumer behavior and to what extent this effect can be explained by emojis' gender traits:

H_{4a}: Consumers take desirable action after seeing the promotional email where emoji gender to product gender is congruent.

H_{4b}: Consumers take undesirable action after seeing the promotional email where emoji gender to product gender is incongruent.

H_{5a}: Consumers perceive positive emotions from the promotional email when emoji gender to product gender is congruent.

H_{5b}: Consumers perceive negative emotions from the promotional email when emoji gender to product gender is incongruent.

4. Study 1

4.1. Method

Participants (N = 172, Female = 98, Male = 74) were undergraduate business students taking part for course extra credit in a core marketing course at the Ohio State University. Participants were asked to complete a self-administrated online survey for a study on "Emoji Gender Qualities" that aims to understand to what extent do emojis possess masculine or feminine traits. The study sessions took place on October 3rd and 4th, 2019.

The emojis tested in the online survey were the 30 most used emojis on Twitter, including both face and nonface emojis, as of the survey design date ("Emojitracker: realtime emoji use on twitter"), the full list of the 30 emojis are shown in Appendix A. In the online survey distributed through Qualtrics, participants were first asked to answer questions on their emoji usage (e.g. "How often do you use emoji?") in the form of multiple-choice questions. Participants were then asked to use words to describe a few emojis in the text-entry box. After providing open-ended responses, participants were asked to indicate if they perceived emoji gender qualities from a randomly assigned list of emojis (e.g. "Please select ALL the emoji below that look masculine or feminine to you."). Having made selections, participants were asked to rate selected emojis' gender

traits using a 6-point Likert scale (1 = very masculine, 6 = very feminine). These two tasks repeated six times, each time with a different list of emojis. In the last section of the online survey, participants' demographic information, including sex, gender, age, and ethnicity, was collected.

4.2. Result

To examine if emojis possess masculine or feminine traits, a one sample t-test was conducted. Only 8.14% (t (171) = -20.019, p = 0.000) of the participants never saw any masculine or feminine trait in all 30 emojis tested.

Word clouds of the answers to the open-ended question "What words would you use to describe the emoji below?" on *face blowing a kiss* (😘), *fire* (🔥), *smiling face with heart-shaped eyes* (😍), *smirking face* (😏), *sparkle* (✨), and *thumb up* (👍) are shown in Figure 1, 2, 3, 4, 5, and 6. "Love", "kiss", and "thank you" were frequently used to describe *face blowing a kiss* (😘). Words like "fire", "hot", "awesome", and "cool" were related to *fire* (🔥). "Love", "heart", "cute", and "beautiful" were linked to *smiling face with heart-shaped eyes* (😍). *Smirking face* (😏) was commonly associated with "smirky", "sneaky", and "sly". "Sparkle", "star", "shinning", and "twinkle" were used to characterize *sparkle* (✨). Lastly, *thumb up* (👍) was described by phrases such as "thumbs up", "good job", and "great job".

Figure 1 Words/phrases related to *face blowing a kiss* emoji (😘)

Figure 2 Words/phrases related to *fire* emoji (🔥)

Figure 3 Words/phrases related to *smiling face with heart-shaped eyes* emoji (😍)

Figure 4 Words/phrases related to *smirking face* emoji (😏)

Figure 5 Words/phrases related to *sparkle* emoji (✨)

Figure 6 Words/phrases related to *thumb up* emoji (👍)

Figure 1 represents the gender trait score that participants assigned to emojis (1 = very masculine, 6 = very feminine), illustrating the extent to which emojis are perceived to possess gender traits. For nonface emojis, heart- related emojis (e.g. *two hearts* (💕), *sparkling heart* (💖), and *broken heart* (💔)) and *sparkles* emoji (✨) were perceived to be feminine. Emojis that are nonface but represent body parts (e.g. *OK hand sign* (👌), *eyes* (👀), and *thumb up* (👍) scored higher in masculinity. *Fire* emoji (🔥) was also perceived to be masculine.

For face emojis, smiling faces (e.g. *smiling face* (😊), *smiling face with heart-shaped eyes* (😍), *smiling face with squinting eyes* (😊)) were generally considered more feminine, with the exception of *smiling face with sunglasses* (😎) which was rated as masculine. In addition, face emojis that convey a somewhat sad emotion, such as *crying face* (😢), *loudly crying face* (😭), and *sad pensive face* (😔), were rated more feminine. Other face emojis that were rated as masculine include *smirking face* (😏) and *grimacing face* (😬).

Weary face (😩), *unamused face* (😒), *grinning face with squinting eyes and sweat drop* (😅), *face with tears of joy* (😂), and *hands raised in celebration* (🙌) were rated between somewhat feminine and somewhat masculine with relatively weak defined gender traits.

To further explain the trend in emojis' gender traits, all tested emojis were drawn on a map with two dimensions, a gender trait score and a sentiment score, as shown in Figure 10. The emoji sentiment score was tested in line with emoji's fundamental function of expressing emotion ("Emoji Sentiment Ranking"). Figure 10 reveals a general trend which is emojis with feminine traits are generally associated with stronger and more positive sentiment compared to emojis with masculine traits.

4.3. Discussion

The results support that emojis have masculine or feminine traits ($\mathbf{H_1}$). However, the extent to which emojis possess these gender traits varies. Heart-related emojis, smiling face emojis, and sad emojis were generally considered more feminine. Emojis of body parts, in general, were rated as more masculine. In addition, while emojis rated as feminine are generally associated with stronger and more positive sentiment, emojis rated as masculine are associated with weaker and less positive sentiment. Participants' gender is not a significant factor in the results.

One possible explanation for the results can stem from how we typically use words to describe men and women. When describing women, words that are related to "love" (Carpenter et al., 2017) or physical appearance (Autzen, 2019) are frequently used, regardless of accuracy. Words refer to behavior and personal quality are often used to describe men, such as "rational" or "reliable" (Autzen, 2019). The open-ended responses further prove these findings. For example, the word "love" was frequently used to

describe both *face blowing a kiss* (😘) and *smiling face with heart-shaped eyes* (😍), and both of these two emojis were rated as feminine. Words related to physical appearances, such as “beautiful”, were also associated with *smiling face with heart-shaped eyes* (😍). Additionally, words related to behavior (“good job”) and personal quality (“sneaky”, “sly”) were frequently used for *thumb up* (👍) and *smirking face* (😏) respectively.

5. Study 2

5.1. Method

Participants (N = 219, Female = 100, Male = 119) were undergraduate business students taking part in extra credit for marketing class at the same university. Participants were asked to complete a self-administrated online survey for a study that aims to understand to what extent does the use of emoji in social media messages, especially Tweets, influence consumer behavior and the role of emojis' gender traits in this process. The study sessions took place on October 31st and November 1st, 2019.

12 out of 30 emojis tested in study 1, including both face and nonface categories, were selected for study 2. These 12 emojis were divided into 6 groups, each group had 2 emojis with similar sentiment scores but very different gender trait scores (i.e. 1 masculine emoji and 1 feminine emoji). All 12 emojis were used to modify 6 real tweets for product promotion that originally had emojis in the captions. Each tweet was modified into 3 or 4 different conditions. Figure 9 and Table 1 show more information regarding study 2's survey design.

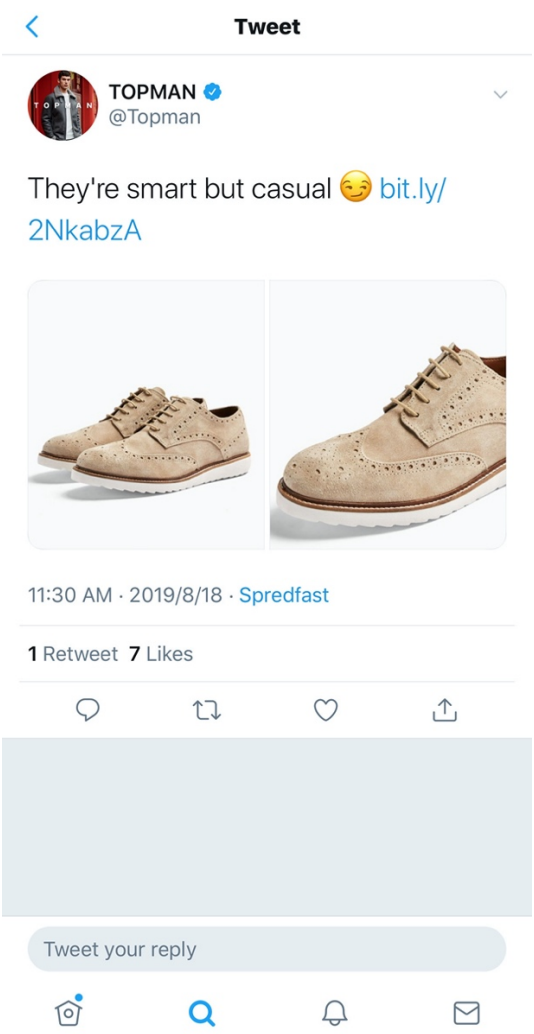

Figure 7 Study 2 Sample Tweet

In the main section of the online survey, participants were randomly shown a product promotion tweet and were asked to rate their purchase intentions (1 = I will definitely buy the product, 5 = I will definitely not buy the product) and product favorability (1 = I like the product a lot, 5 = I do not like the product at all) using a 5-point Likert scale.

Participants were then asked to answer questions regarding their current emotions with a 5-point Bipolar scale (e.g. 1 = unhappy, 5 = happy). In the next step, participants were asked what gender they thought the tweet sender identifies with (e.g. "I think the sender of the tweet is..."). Participants were also asked to rate how much they like the brand measured by their attitudes on brand image, product quality, and product value. Every question in the main section repeated 6 times for 6 tweets in total, the condition of each tweet was randomly assigned. In the last section of the online survey, participants' demographic information, including sex, gender, age, and ethnicity, was collected.

5.2. Result

To test consumers' emotions and attitudes toward the product (**H_2**) and purchase intentions (**H_3**) under different conditions, a one-way Analysis of Variance (ANOVA) and a Chi-square test were run. Table 2 shows the results in detail. None of the tested variables is significant across different conditions for all 6 tweets, therefore, no evidence supports that emoji gender to product gender congruence or incongruence has a significant impact on consumers' attitudes toward the product or purchase intentions. However, there are still interesting findings. When a masculine emoji *fire* (🔥) was used for the product promotion tweet of milk, participants were less likely to advise their friends to buy the milk (F (2, 216) = 4.462, p = 0.013). Participants felt more controlling in making their own purchase decisions when there was a *fire* (🔥) emoji ($\bar{x}$ = 3.21) and

more controlled by other factors in making their purchase decisions when there was no emoji in this tweet ($\bar{x} = 2.84$).

In addition, when a feminine emoji *smiling face* (☺️) was used for the men shoes tweet, more participants thought the tweet sender was a female ($\chi^2(6) = 12.908$, $p = 0.045$). Meanwhile, fewer participants believed that the target audience for the product was male ($\chi^2(2) = 11.109$, $p = 0.004$) and more participants thought that the product was targeting female ($\chi^2(2) = 20.209$, $p = 0.000$). They felt more stimulated ($\bar{x} = 3.04$) and excited ($\bar{x} = 2.95$) when the feminine emoji *smiling face* (☺️) was present. In contrast, participants were more relaxed ($\bar{x} = 2.53$) and calm ($\bar{x} = 2.58$) when a masculine emoji *smirking face* (😏) was used in the tweet.

Likewise, when a masculine emoji *smiling face with sunglasses* (😎) was present in the tweet for women shoes, fewer participants thought the tweet sender was a female and more participants became unsure about the gender of the tweet sender ($\chi^2(6) = 13.427$, $p = 0.037$). Also, more participants thought the target audience of the product was non-binary/third gender ($\chi^2(2) = 9.222$, $p = 0.010$).

For the tweet of men accessories, participants felt bored ($\bar{x} = 2.80$) and controlled ($\bar{x} = 2.74$) when there were multiple emojis, three *OK hand sign* (👌) emojis. They were more relaxed when no emoji was used in the tweet ($\bar{x} = 2.41$).

For the tweet of women accessories, participants felt more guided by the information provided in the tweet, rather than autonomous when making purchase decisions ($\bar{x}$ = 2.74), when the tweet included multiple emojis, three *two hearts* (💕) emojis.

5.3. Discussion

The results do not support that emoji gender to product gender congruence or incongruence will have a direct impact on consumers' attitudes toward the product or their purchase intentions. Participants' gender is not a significant factor in the results. One thing to note for the finding of the *fire* (🔥) emoji in milk promotional tweet is that fire and milk, which must be stored cold, is incongruent in common sense. Therefore, having a fire emoji in promotional tweet of milk can be discouraging for marking a purchase. The fact that the results do not lead to generalizable hypothesis points out that the influence of emoji usage in social media marketing on consumer behavior can be moderated by many situational factors. For example, consumers' emotions and sentiments vary across different conditions and products, which can, in turn, affect their attitudes toward the product as well as purchase intentions. Moreover, the change in perceptions of the gender of tweet sender and the target audience is somehow related to the emoji, since the emoji is the only changed factor while everything else in the tweet is held constant. However, the exact cause of the change in perceptions remains unclear; it could solely be the emojis' gender traits, or it could also be a mediation process with other factors. Whether this change in perceptions of the gender of the tweet sender and

the target audience has an effect on attitude toward the product and purchase intention remains uncertain.

6. Study 3

6.1. Method

Participants (N = 209, Female = 105, Male = 102, Prefer not to answer = 2) were undergraduate business students taking part for marketing class extra credit at the same university. Participants were asked to complete a self-administrated online survey for a study that aims to understand to what extent does the use of emoji in email subjects influence consumer behavior and the role of emojis' gender traits in this process. The study sessions took place on March 5th and 6th, 2020.

Six out of 12 emojis tested in study 2 were selected for study 3. These 6 emojis were divided into 3 groups, and each group had 2 emojis with similar sentiment scores but very different gender trait scores (i.e. 1 masculine emoji and 1 feminine emoji). All 6 emojis were used to modify 3 email subjects of promotional emails. Each email subject was modified into 3 different conditions. Figure 8 and Table 3 show more information regarding study 3's survey design.

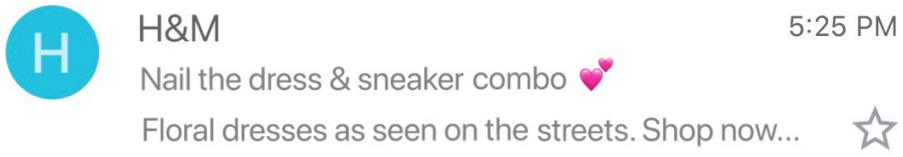

Figure 8 Study 3 Sample Email Subject

In the main section of the online survey, participants were randomly shown an email subject of a promotional email and were asked to check the action they would take after seeing the email subject. Participants were then asked to choose from a list of emotions that the email conveys from, full list is shown in Table 4. In the next step, participants were asked to make predictions about who was the email sender (a person or the brand), the email sender's gender, and the target audience's gender. Participants were also asked to rate brand familiarity, brand favorability, product quality, and product value using a 5-point Likert scale. Every question in the main section repeated 3 times for 3 emails in total, the condition of each email was randomly assigned. In the last section of the online survey, participants' demographic information, including sex, gender, age, and ethnicity, was collected.

6.2. Result

To test consumers' actions (**H_4**) and perceived emotions (**H_5**) under different conditions, a one-way Analysis of Variance (ANOVA) and a Chi-square test were run. Table 4 shows the results in detail. None of the tested variables is significant across different conditions for all 3 emails, therefore, no evidence supports that emoji gender to product gender congruence or incongruence has a significant impact on consumers' actions or perceived emotions after seeing the email. However, there are still interesting findings.

For the promotional email of a gender-neutral product, fewer participants thought the target audience is male ($\chi^2(2) = 8.458$, $p = 0.015$), when a feminine emoji *sparkling heart* (💖) was used. More participants thought the email conveys excitement when the *sparkling heart* (💖) was present ($\chi^2(2) = 6.019$, $p = 0.049$). Fewer participants perceived satisfaction from the email when there was masculine emoji, *OK hand sign* (👌) ($\chi^2(2) = 6.585$, $p = 0.037$) while more participants perceived relaxed emotion when no emoji was used ($\chi^2(2) = 7.207$, $p = 0.027$).

For the promotional email of a female targeted product, fewer participants thought the target audience's gender is non-binary/third gender when a feminine emoji *two hearts* (💕) was used ($\chi^2(2) = 8.364$, $p = 0.015$). Fewer participants thought the email conveys happiness when there was a masculine emoji *thumb up* (👍) ($\chi^2(2) = 19.009$, $p = 0.000$). Meanwhile, fewer participants perceived hope ($\chi^2(2) = 6.557$, $p = 0.038$) when no emoji was used.

For the promotional email of a male targeted product, when a feminine emoji *sparkles* (✨) was present, fewer participants thought the email conveys happiness ($\chi^2(2) = 28.154$, $p = 0.000$).

6.3. Discussion

The results do not support that emoji gender to product gender congruence or incongruence will have a direct impact on consumers' actions after seeing the email or perceived emotions of the email. Participants' gender is not a significant factor in the results. Results do not lead to a generalizable hypothesis points out that the influence of emoji usage in email marketing on consumer behavior can be moderated by many situational factors. For example, the emotions consumers perceive from the email could be affected by their own feelings at that moment. Moreover, the change in perceptions of the target audience's gender is somewhat related to the emoji, since emoji is the only changing factor in each promotional tweet. However, the exact cause of the change in perceptions remains unclear; it could solely be emojis' gender traits, or it could also be a mediation process with factors other than that, more research in this area is needed.

7. General Discussion

7.1. Conclusions and Implications

Social media marketing and email marketing are now essential and fast-growing parts of digital marketing. On various social media platforms where communication mainly relies on text and images, it is important for the business to effetely deliver their messages to the consumers. Effective communication is even more crucial in a pure textual communication environment, such as email. Using emojis in text-based communication can help create more expressive messages while reducing ambiguity (Kaye et al., 2016). The findings that emojis have masculine or feminine traits can also help businesses craft their messages more strategically. It would be useful to consider emojis' gender traits as well as potential associations to avoid unintended misunderstandings or misrepresentations of products or the brands. Although emojis' gender traits may not directly influence consumers' purchase intentions or actions, this perceived gender definitely influences consumer behavior in terms of their emotions and perceptions. How consumers feel can affect their attitudes on product. The perceived gender aspect can alter consumers' perceptions on the message sender and the target audience's gender, which is crucial to be consistent with product's positioning and targeting and the objective of the marketing messages. Therefore, while emojis' gender traits are not a deciding factor in the success of social media marketing campaigns, it is still be

beneficial for businesses to take this aspect into consideration to create a smooth and consistent customer experience.

7.2. Limitations and Future Research

Undergraduate students at the Fisher College of Business of The Ohio State University took part in this research, and in this group of participants, age (mostly between 18 - 24) and ethnicity (mostly Caucasian and Asian) are fairly homogenous, which may not realistically reflect the demographic characteristics of the true population. Furthermore, as the three studies were posted online for students to sign up for this opt-in participation can lead to some degree of sampling bias. Also, consumer behavior was tested through online surveys, and this study design is not as realistic as when participants are actually using their own mobile devices to use Twitter or to read emails. All these limitations are things to take into consideration for related future research. It requires future research to better understand the effect of emojis' gender traits on consumers' attitudes toward the product and purchase intentions.

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Appendix A. Emoji Names

Two hearts	
Sparkling heart	
Purple heart	
Broken heart	
Love letter	
Sparkles	
Smiling face	
Red heart	
Smiling face with heart-shaped eyes	
Face blowing a kiss	
Smiling face with squinting eyes	

Crying face 😢

Relieved face 😌

Loudly crying face 😭

Sad pensive face 😔

Face with wide open eyes 😳

Blue heart 💙

Weary face 😩

Unamused face 😒

Grinning face with squinting eyes and sweat drop 😅

Face with tears of joy 😂

Hands raised in celebration 🙌

Grimacing face 😬

Fire 🔥

Smiling face with sunglasses 😎

Smirking face	
Hands pressed together	
Thumb up	
Eyes	
OK hand sign	

	Condition 1 No emoji (control group)	Condition 2a Gender congruence (emoji gender – product gender is congruent)	Condition 3a Gender incongruence (emoji gender – product gender is incongruent)	Condition 4 Multiple emojis
Men accessories (male targeted product)		🙌	💌	👌👌👌
Women accessories (female targeted product)		💕	👍	💕💕💕
Men shoes (male targeted product)		😏	☺️	/
Women shoes (female targeted product)		😍	😎	/
	Condition 1 No emoji (control group)	Condition 2b Feminine emoji	Condition 3b Masculine emoji	Condition 4 Multiple emojis
Unisex clothes (gender – neutral product)		💖	👌	😍💖👀👌
Milk (gender-neutral product)		✨	🔥	/

Table 1 Study 2's Design

Appendix B. Landscape Tables and Figures

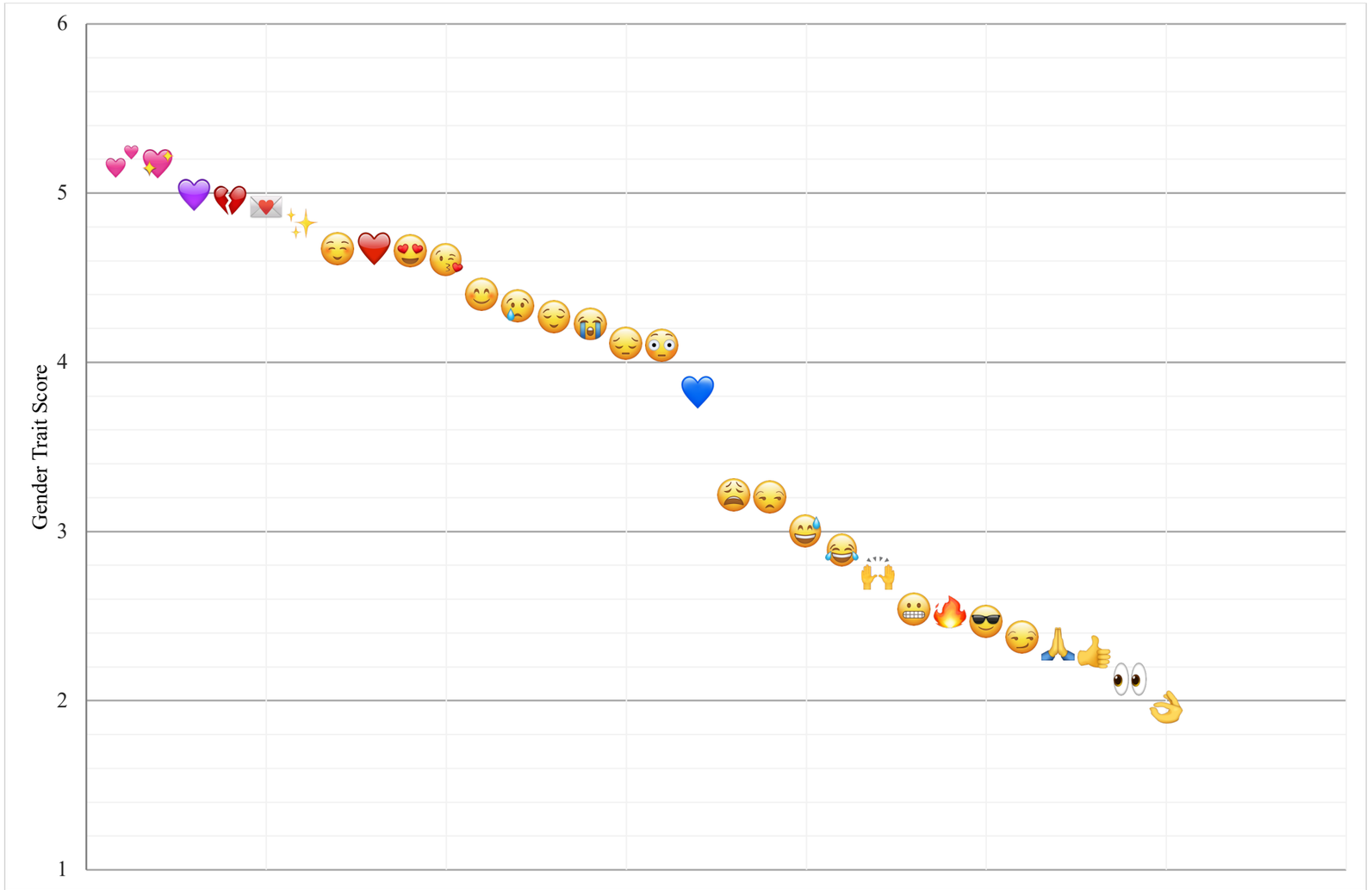

Figure 9 Emoji Gender Trait Score (1 = very masculine, 6 = very feminine)

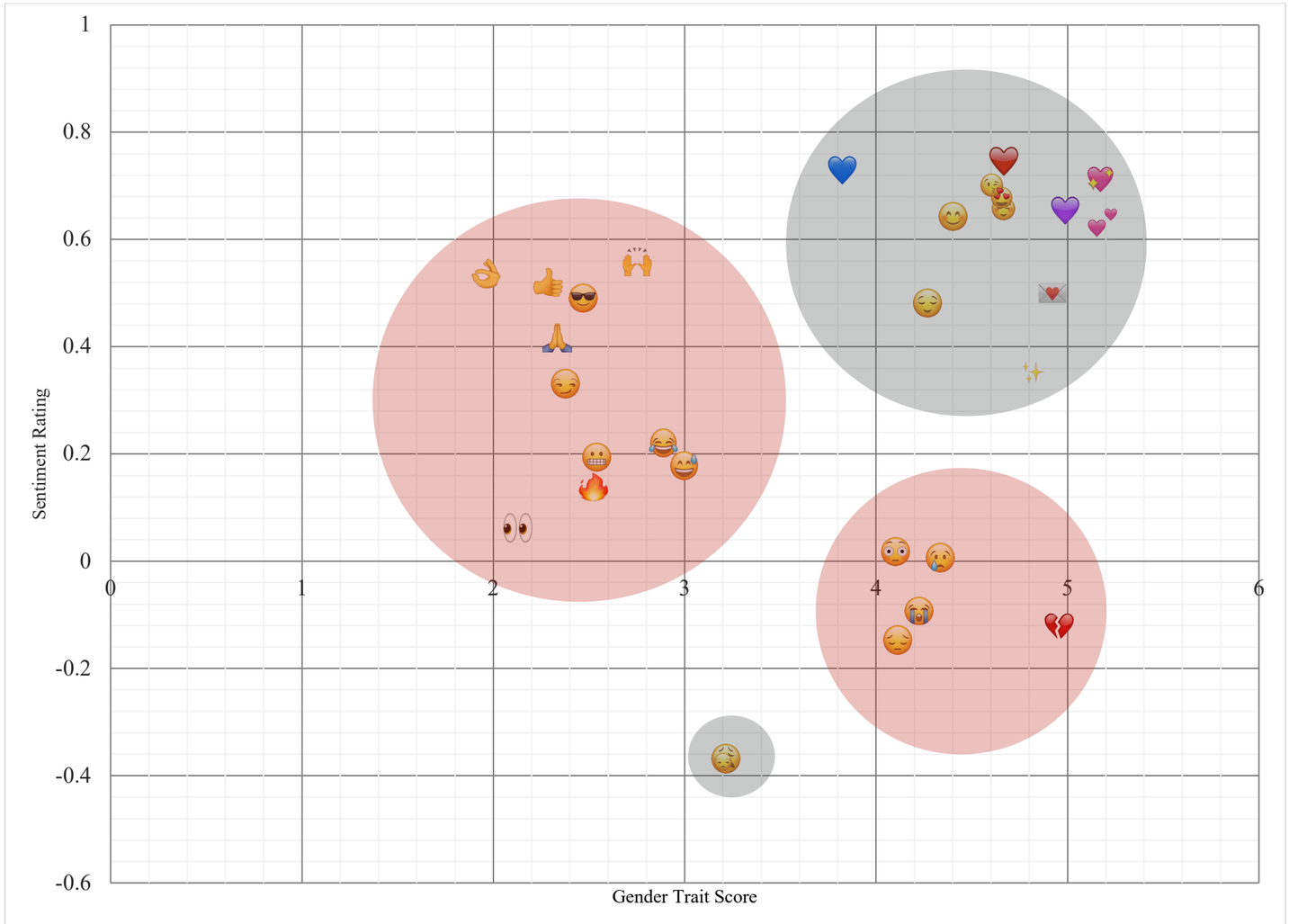

Figure 10 Emoji Gender Trait Score vs. Emoji Sentiment Score (1 = very masculine, 6 = very feminine; -1 = strong negative sentiment, 1 = strong positive sentiment)

	Men accessories (male targeted product)	Women accessories (female targeted product)	Men shoes (male targeted product)	Women shoes (female targeted product)	Unisex clothes (gender – neutral product)	Milk (gender-neutral product)
Purchase intention measured by product recommendation	0.524	0.925	0.726	0.447	0.435	***0.013**
Gender of tweet sender	0.769	0.11	***0.045**	***0.037**	0.116	0.171
Gender of the target audience						
Male	0.704	0.528	***0.004**	0.427	0.809	0.16
Female	0.709	0.101	***0.000**	0.251	0.238	0.087
Non-binary/Third Gender	0.6	0.871	0.614	***0.010**	0.495	0.46
Emotion						
Bored – Relaxed	***0.047**	0.333	0.878	0.914	0.149	0.158
Relaxed – Stimulated	***0.005**	0.25	***0.003**	0.215	0.558	0.873
Calm – Excited	0.209	0.23	***0.050**	0.576	0.49	0.602
Guided – Autonomous	0.179	***0.017**	0.921	0.75	0.557	0.094
Controlled – Controlling	***0.018**	0.207	0.47	0.875	0.191	***0.009**

Table 2 Study 2's Significance Table

	Condition 1 No emoji (control group)	Condition 2 Gender congruence (emoji gender – product gender is congruent)	Condition 3 Gender incongruence (emoji gender – product gender is incongruent)	Condition 4 Feminine emoji (gender-neutral product with feminine emoji)	Condition 5 Masculine emoji (gender neutral product with feminines emoji)
Gender-neutral product		/	/	💖	👌
Female targeted product		💕	👍	/	/
Male targeted product		🔥	✨	/	/

Table 3 Study 3 Survey Design

	Gender-neutral product	Female targeted product	Male targeted product
Consumer's action after seeing the email	0.564	0.726	0.246
Email sender (a person or the brand)	0.394	0.938	0.825
Email sender's gender	0.406	0.135	0.556
Brand familiarity	0.131	0.947	0.334
Brand favorbility	0.576	0.521	0.391
Product quality	0.562	0.801	0.147
Product value	0.549	0.851	0.612
Gender of the target audience			
Male	***0.015**	0.061	0.325
Female	0.307	0.649	0.281
Non-binary/Third Gender	0.261	***0.015**	0.371
Conveyed Emotion			
Happiness	0.859	***0.000**	***0.000**
Sadness	0.367	0.134	0.367
Annoyance	0.458	0.658	0.231
Pleasure	0.737	0.317	0.963
Satisfaction	***0.037**	0.435	0.399
Unsatisfaction	0.713	0.815	0.805
Despair	0.367	0.606	0.604
Hope	0.513	***0.038**	0.172
Bored	0.076	0.513	1.000
Relaxed	***0.027**	0.523	0.086
Excitement	***0.049**	0.068	0.103
Calmness	0.166	0.355	0.930
Other	0.691	0.446	0.364

Table 4 Study 3 Significance Table